CLEAN VERSION OF THE AMENDED CLAIMS

8. (amended) Cardiovascular prostheses according to claim 6, characterized in that the outer perfusion circuit (5') can be operated by a method selected from the group consisting of co-current transporting to the inner perfusion circuit (5), counter-current transporting to the inner perfusion circuit (5), and static transporting to the inner perfusion circuit (5).

13. (amended) Cardiovascular prostheses according to claim 6, characterized in that the realization of the adapters (3, 3') for fixing the prosthesis (1) is realized by an olive .

16. (amended) Cardiovascular prostheses according to claim 1, characterized in that the prosthesis is used as a member selected from the group consisting of a vascular prosthesis, a heart valve prosthesis and a stent.

20. (three times amended) The method according to claim 17, characterized in that

a) the outer perfusion circuit (5') can be operated in co-current or counter-current to the inner perfusion circuit (5), but also statically,

b) the two perfusion circuits (5, 5') do not work as a closed system but lead from one medium reservoir (6) into another medium reservoir (6'), in which the medium collected has already streamed through the prosthesis,

c) the inner and the outer perfusion circuits have a member selected of the group consisting of different medium reservoirs and one and the same medium reservoir (6, 6'), and

d) the two perfusion circuits (5, 5') unite inside the chamber (2) after having streamed the prosthesis (1), but leave the chamber (2) in separate perfusion circuits (5, 5').

22. (new) Cardiovascular prostheses according to claim 6, characterized in that the realization of the adapters (3, 3') for fixing the prosthesis (1) is realized by cones with clamping means.

23. (new) Cardiovascular prostheses according to claim 6, characterized in that the realization of the adapters (3, 3') for fixing the prosthesis (1) is realized by an expansion member.

24. (new) Cardiovascular prostheses comprising

an endothelial cell surface produced wherein the formation of a confluent monolayer ensues by the cells growing under a permanent influence of defined pulsatile shear forces increasing up to physiological values after an initial sub-confluent seeding of a surface on the blood contact side, by means of streaming the prosthesis surface on the blood contact side along a main axis of the prosthesis in an inner perfusion circuit and by moistening an outer prosthesis wall in an outer perfusion circuit, or in a permeable medium reservoir.

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25. (new) The cardiovascular prostheses according to claim 24 wherein the shear force is from about 0.01 to 5 dyn/cm2.

26. (new) The cardiovascular prostheses according to claim 24 wherein a confluent endothelial layer having a high quality is present.

27. (new) A method for covering cardiovascular prostheses with endothelial cells comprising the following steps:

initially sub-confluently seeding the prosthesis surface on the blood contact side;

streaming the prosthesis surface on the blood contact side along the main axis of the prosthesis in an inner perfusion circuit, and a moistening of the outer prosthesis wall in an outer perfusion circuit or in a permeable medium reservoir;

growing cells growing under a permanent influence of defined pulsatile shear force increasing up to physiological values;

forming a confluent monolayer of the grown cells.

28. (new) The method for covering cardiovascular prostheses according to claim 27 further comprising

employing a shear force from about 0.01 to 5 dyn/cm2.

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29. (new) The method for covering cardiovascular prostheses according to claim 27 further comprising forming a confluent endothelial layer having a high quality.